Set Name	Query	Hit Count	Set Name
	side by side		result set

DB=USPT; PLUR=NO; OP=OR

Set Name	Query	Hit Count	Set Name
L24	(l3 near5 l22) and l23	5	L24
L23	l22 same (surface or extend)	7955	L23
L22	l11 near2 (oriented or orient or align or aligned or alignment or parallel)	23276	L22
L21	l20 not l14	74	L21
L20	L19 and l18	78	L20
L19	l11.ti,ab.	40961	L19
L18	L17 and l16	270	L18
L17	diameter or density or (aspect adj ratio)	1168500	L17
L16	l15 same surface	326	L16
L15	l11 near2 l3	1299	L15
L14	L13 and l5	45	L14
L13	l12 near5 l3	583	L13
L12	(grown or deposit or deposited or formed or surface) near6 l11	95903	L12
L11	whiskers or needles or projections or rods or protrusions or dendrites	381585	L11

DB=USPT; PLUR=YES; OP=OR

Set Name	Query	Hit Count	Set Name
L10	l7 and l4	55	L10
L9	l5 and l6	7	L9
L8	l5 and l4	210	L8
L7	L6 and l2	55	L7
L6	l4.ti,ab.	206	L6
L5	l2.ti,ab.	182409	L5
L4	l3 near3 l1	3383	L4
L3	oxide or alumina or zirconia or titaniumdioxide or ("al.sub.2 o.sub.3") or zno or ("tio.sub.2")	505511	L3
L2	electronic or emission or emissive or capacitor or sensor	824727	L2
L1	whisker or needle or projection or rod or protrusion or dendrite	799939	L1

END OF SEARCH HISTORY

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* weighted average
* dropdown list in cell
* standard deviation
* more ...

* what are variables ?
* date diff - calc with qtrs
* more ...

* dynamic named ranges
* finding real last cell
* more ...

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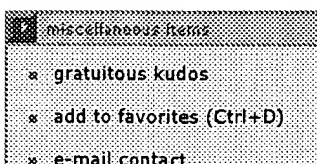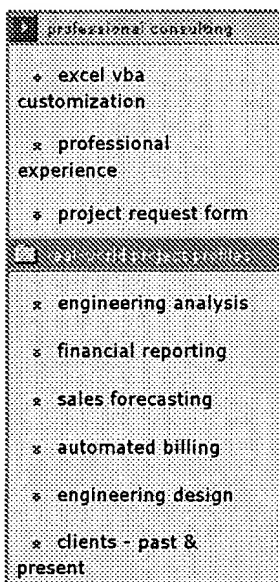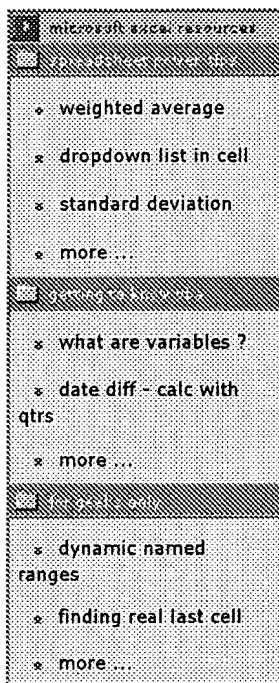miscellaneous items

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Weighted Average

Rodney Powell
Microsoft MVP - Excel

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One of the most common inquiries submitted to me is about how to calculate weighted averages. Here is an example of a way you can use a weighted average in an Excel spreadsheet.

In this example, let's say you have a coffee company that carries several flavors at different prices and volume of sales. You need to know the average dollars per pound of coffee sold during a given period.

Let's see how our example looks in a spreadsheet.

	A	B	C	D
1	Product	Cost Per Pound	Pounds Sold	
2	Cafe Hawaii	$ 6.50	100	
3	Diamond Head Expresso	$ 7.95	80	
4	Kona Macadamia	$ 14.50	60	
5	Maui Mocha Macadamia	$ 7.50	70	
6	Vanilla Macadamia	$ 6.95	90	
7				
8	AVERAGE	$ 8.68		
9				
10	WEIGHTED AVERAGE	$ 8.27		
11				

A straight average of prices across all flavors is simple. The average of **B2:B6** is $8.68, but it wouldn't be accurate. Your company sells more of the less expensive products and sells less of the more costly coffee flavors. Therefore, we also need to account for the differences in sales volume for each of the product flavors.

The weighted average calculation looks like this:

```
product A    price    *    volume    =    $
product B    price    *    volume    =    $
product C    price    *    volume    =    $
                           ------         ---
                      sum volume    sum total $

           sum total $ / sum volume
```

In cell **B10** is the following formula:

=SUMPRODUCT(B2:B6,C2:C6)/SUM(C2:C6)

Our formula multiplies the price of each product by its volume and calculates its sum for all the products. Then it divides that value by the sum of the volume for all products together.

As you see, this weighted average correctly indicates that the dollars per pound of coffee is $8.27.

*Special thanks to my good friend Robert Davidson of **DFWSupport.com** for helpful feedback to update this article.*